

## ABSTRACT

An array antenna transmission and reception apparatus that is simply configured to make it possible to reduce the size and weight and that separates and extracts respective phase calibration signals from radio signals to be transmitted and radio signals to be received passing through the same path. A directivity coupler (102) is provided with a first connection terminal (201) connected to an antenna element (101), a second connection terminal (202) connected to an antenna duplexer (103), a third connection terminal (203) with directivity toward the first connection terminal (201) and connected to a phase calibration received signal conversion section (111) and a fourth connection terminal (204) with directivity toward the second connection terminal (202) and connected to a phase calibration transmission signal conversion section (110). The antenna duplexer (103) is connected to the directivity coupler (102), a transmission radio section (104) and a reception radio section (105), outputs a radio signal output from the transmission radio section (104) to the directivity coupler (102) and outputs a radio signal output from the directivity coupler (102) to the reception radio section (105).